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CIPE JC149
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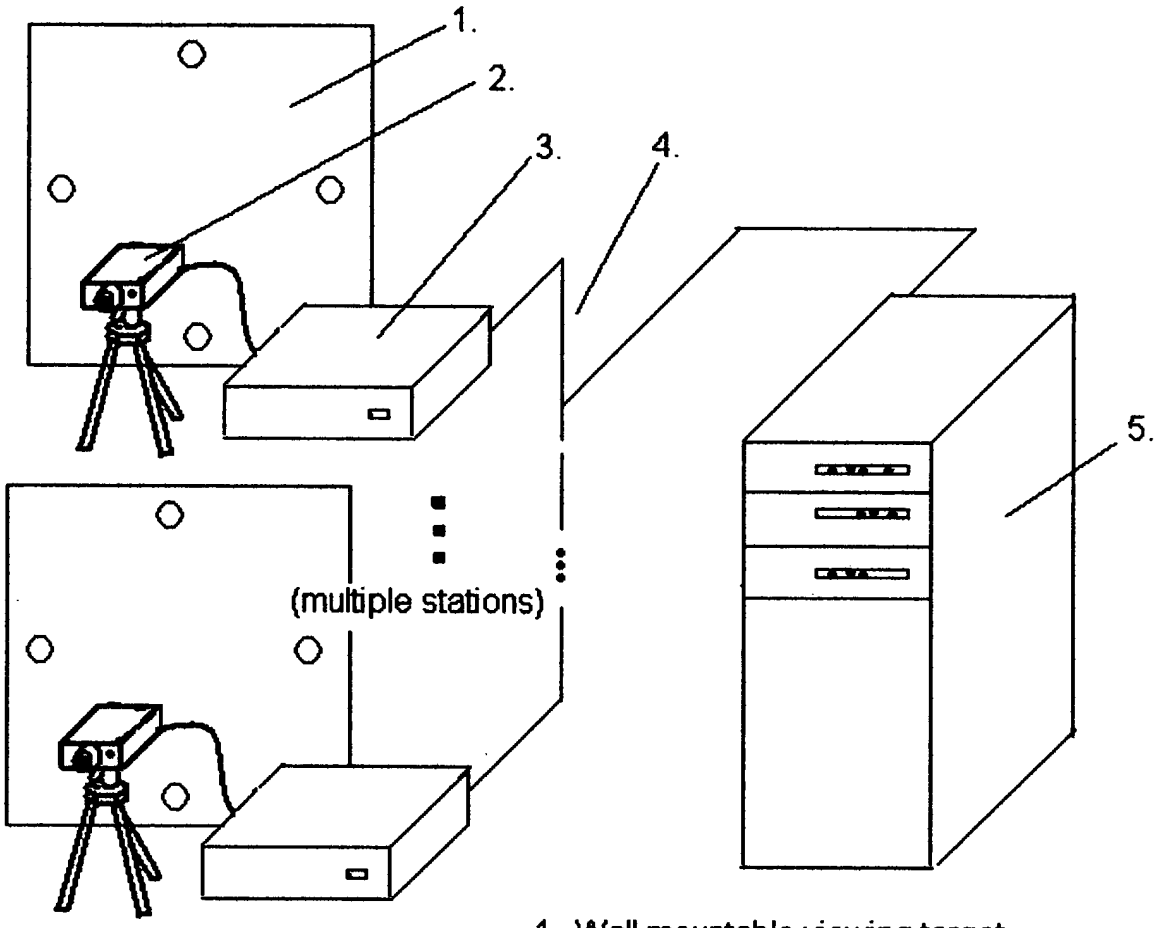
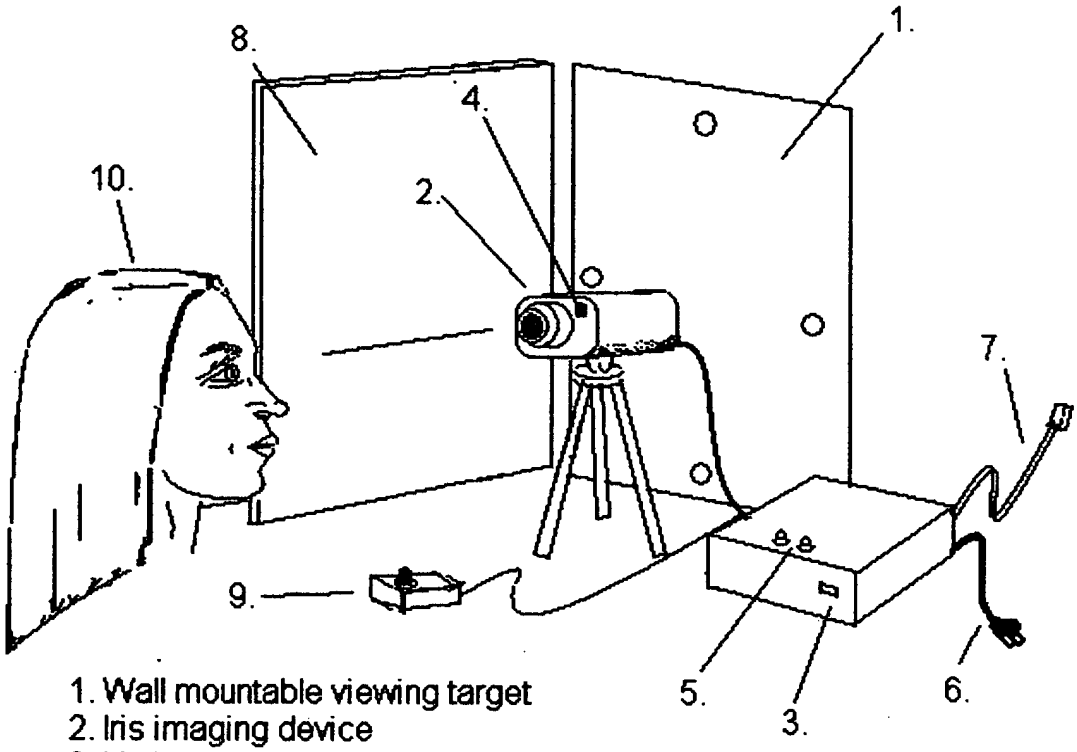
FIG. 1.



1. Wall mountable viewing target
2. Iris imaging device
3. Iris image processing station
4. Data medium
5. Authentication server

FIG. 2.



1. Wall mountable viewing target
2. Iris imaging device
3. Iris image processing station
4. Imaging indicator
5. Authentication success/failure indicator lights
6. Power cord
7. Communication cable
8. Privacy shield
9. Authentication start switch
10. Authentication candidate

FIG. 3.

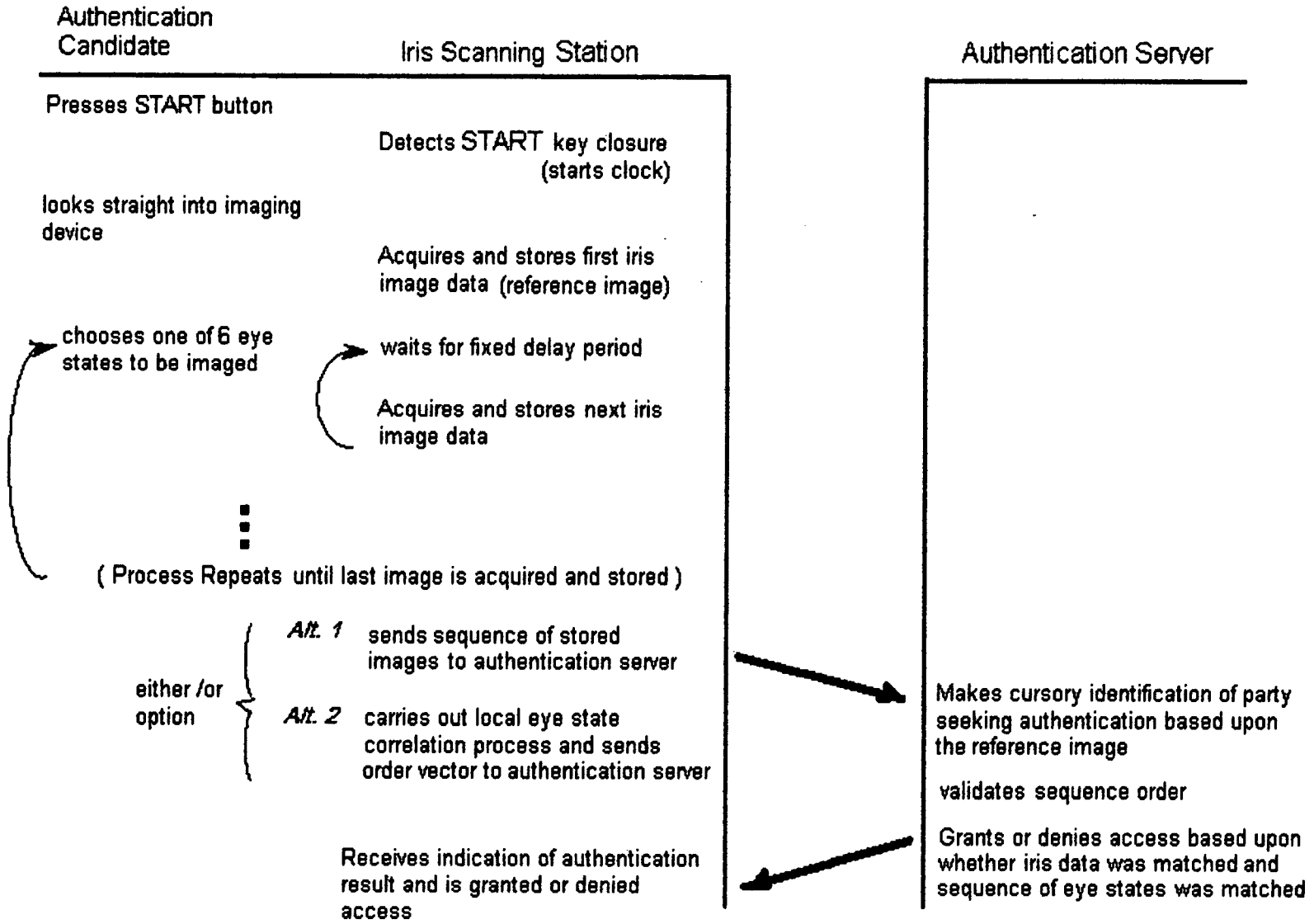
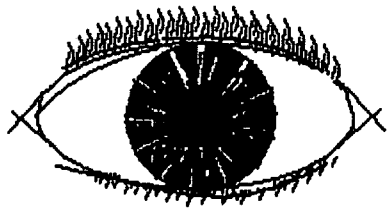
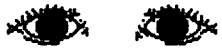

Authentication Candidate
Iris Scanning Station
Authentication Server
Presses START button
Detects START key closure (starts clock)
looks straight into imaging device
Acquires and stores first iris image data (reference image)
chooses one of 6 eye states to be imaged
waits for fixed delay period
Acquires and stores next iris image data
(Process Repeats until last image is acquired and stored)
either /or option
Alt. 1 sends sequence of stored images to authentication server
Alt. 2 carries out local eye state correlation process and sends order vector to authentication server
Makes cursory identification of party seeking authentication based upon the reference image
validates sequence order
Grants or denies access based upon whether iris data was matched and sequence of eye states was matched
Receives indication of authentication result and is granted or denied access

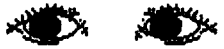
FIG. 4.

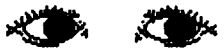
1. Human eye showing iris

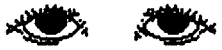


2. Depiction of six eye states detectable by iris imaging and recognition systems

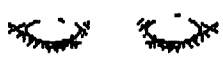
a. Camera view 

b. View right 

c. View left 

d. View up 

e. View down

f. eye closed 

3. Example of a possible authentication sequence

0≤t < 1.4 1.4≤t < 2.8 2.8≤t < 4.1 4.1≤t < 5.5 5.5≤t < 7.0

4. Corresponding order vector based upon definitions enumerated above

[a, f, a, c, d]

FIG. 5.

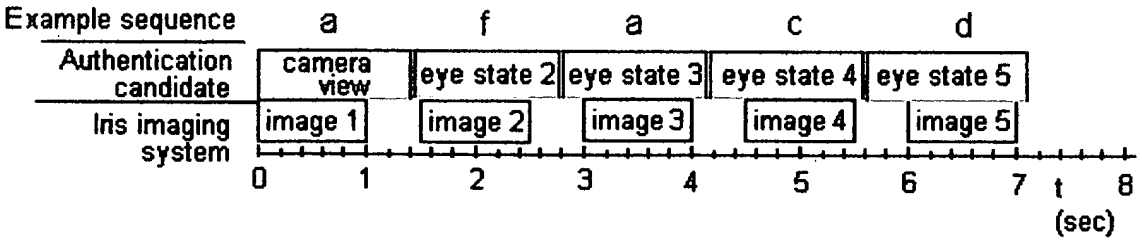

Example sequence
a
f
a
c
d
Authentication candidate
camera view
eye state 2
eye state 3
eye state 4
eye state 5
Iris imaging system
image 1
image 2
image 3
image 4
image 5
0
1
2
3
4
5
6
7
t
8
(sec)

FIG. 6.

Recommended Authentication Data Packet Structure

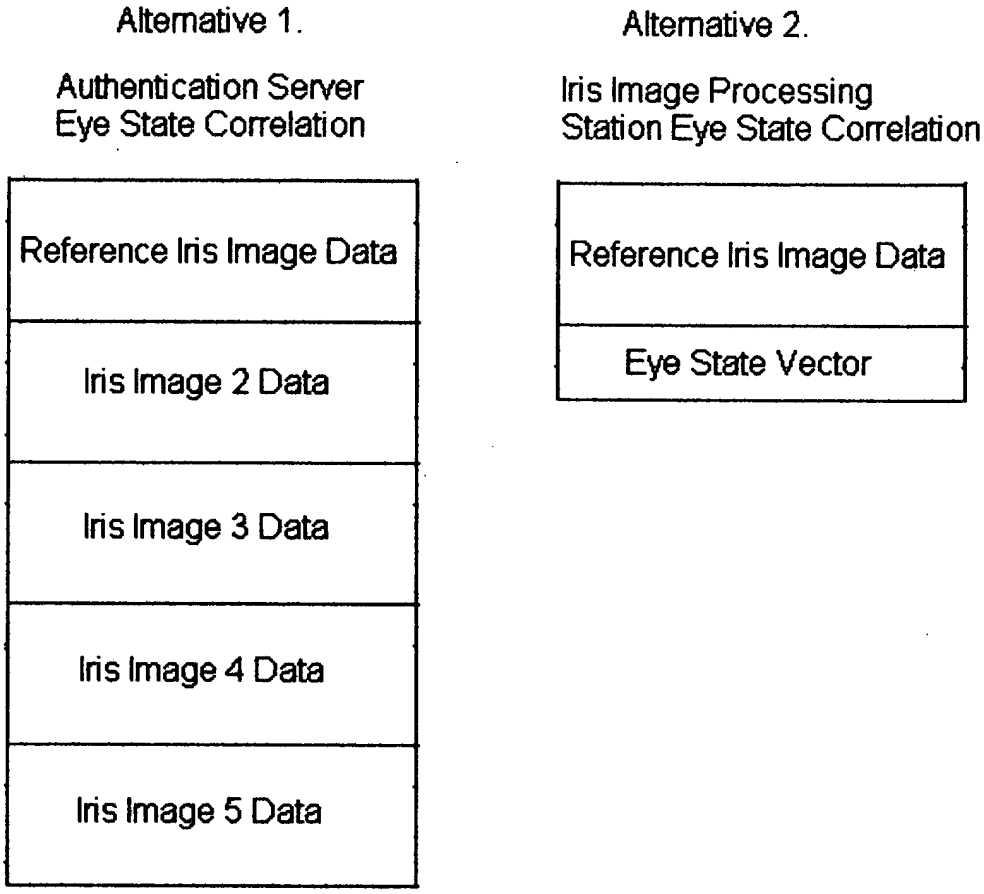
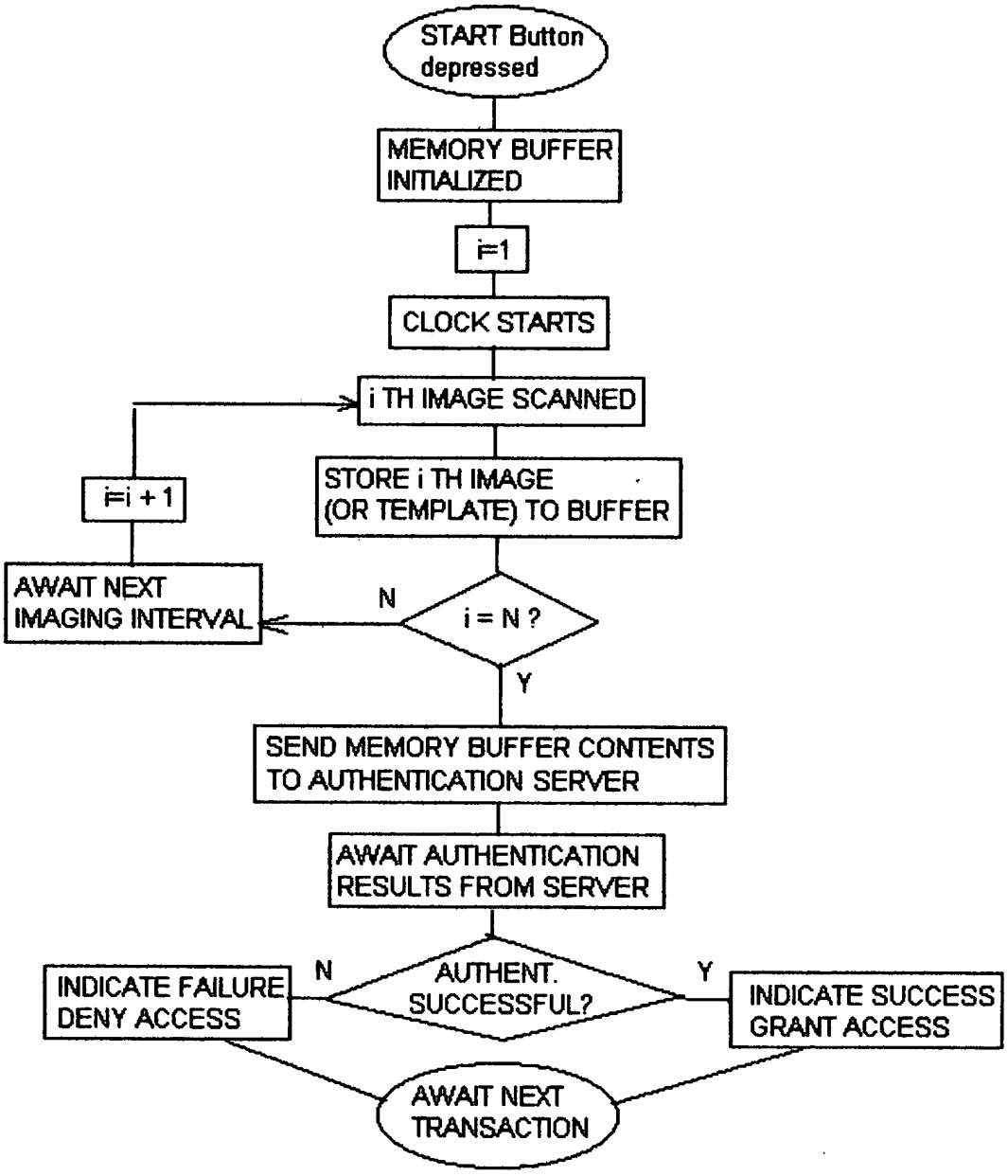


FIG. 7.

IRIS SCANNING STATION SIDE
AUTHENTICATION PROCESS

ALTERNATIVE 1.
(SERVER SIDE ORDER PROCESSING)



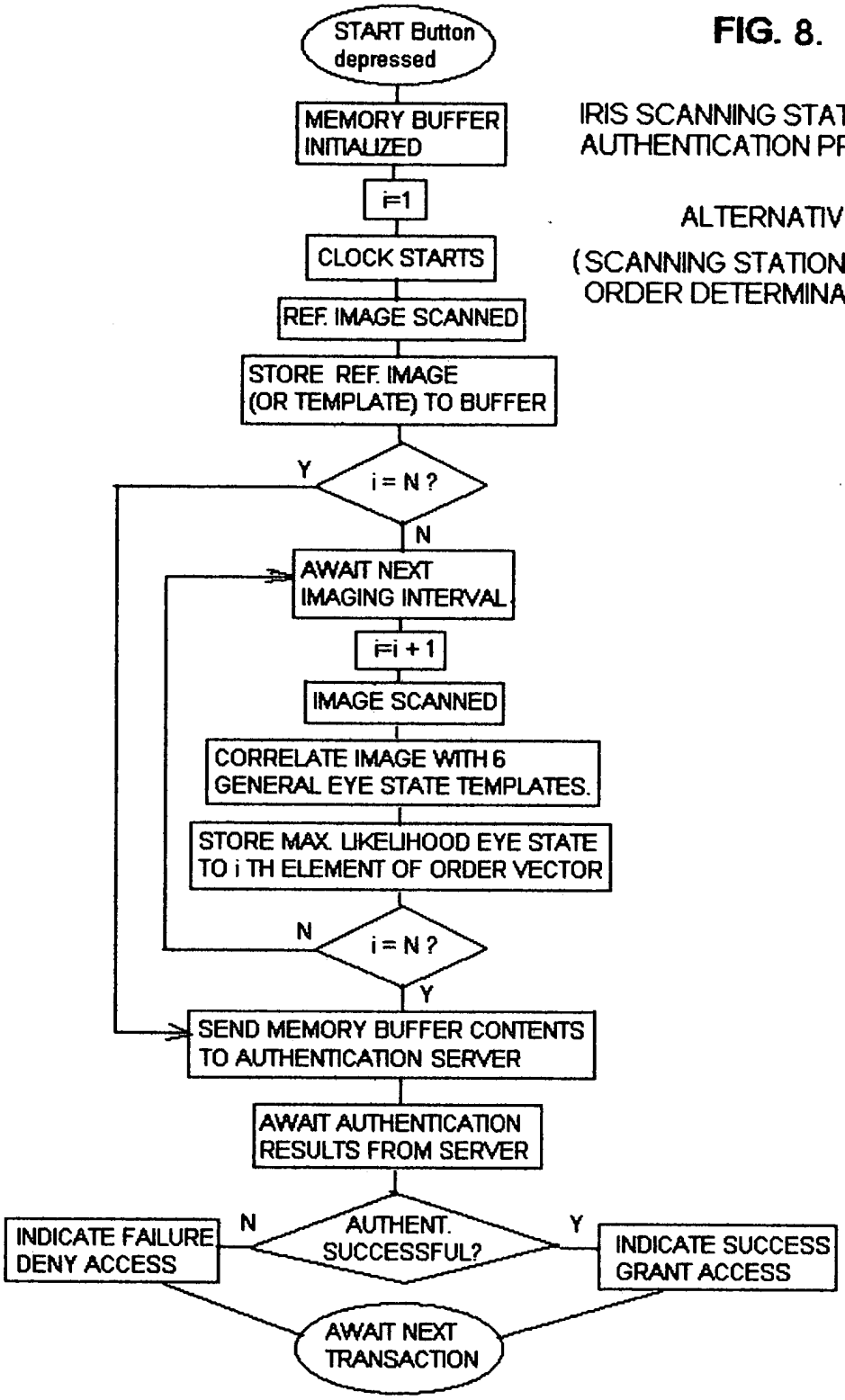


FIG. 8.

IRIS SCANNING STATION SIDE AUTHENTICATION PROCESS

ALTERNATIVE 2.

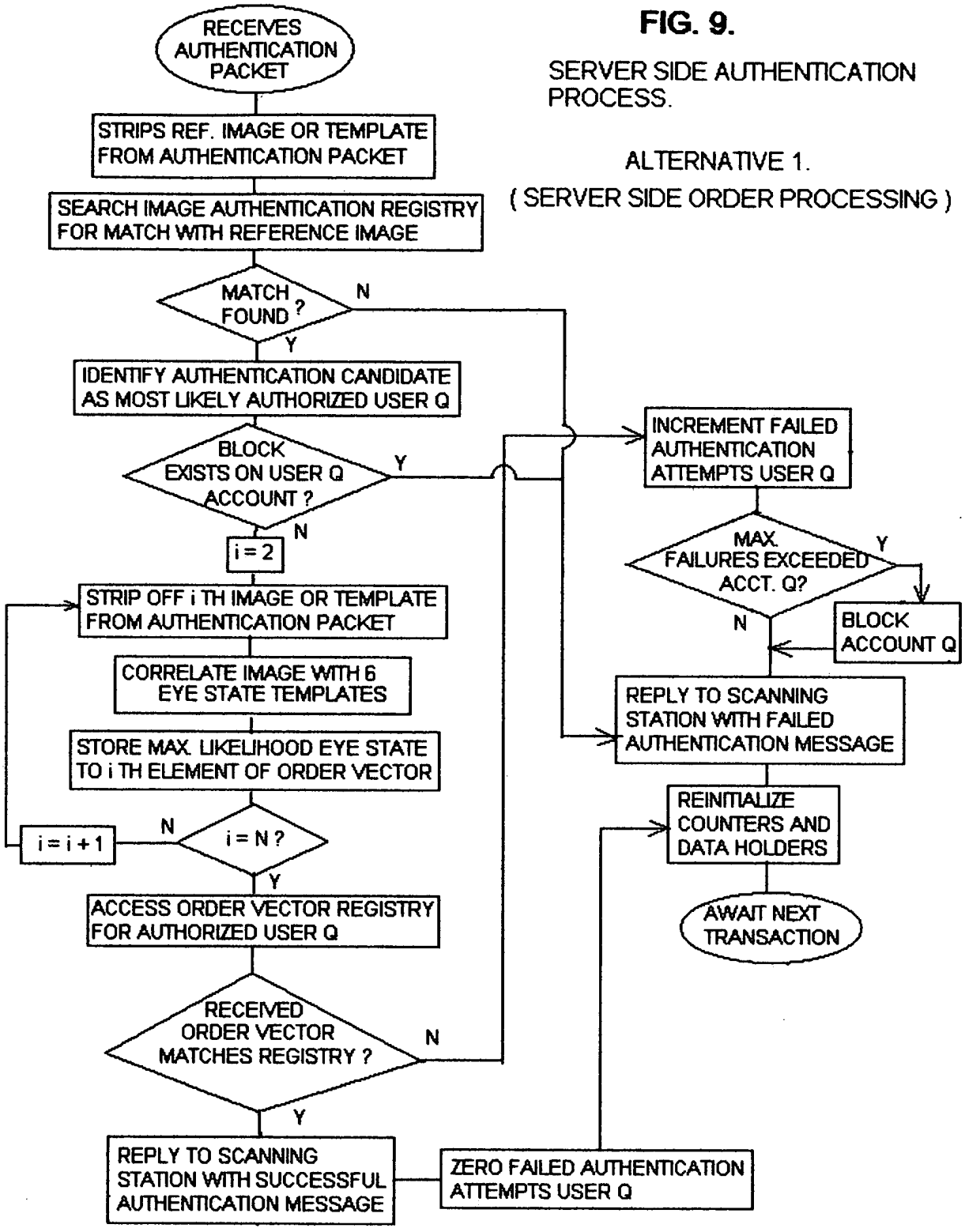
(SCANNING STATION SIDE IMAGE ORDER DETERMINATION)

FIG. 9.

SERVER SIDE AUTHENTICATION PROCESS.

ALTERNATIVE 1.

(SERVER SIDE ORDER PROCESSING)



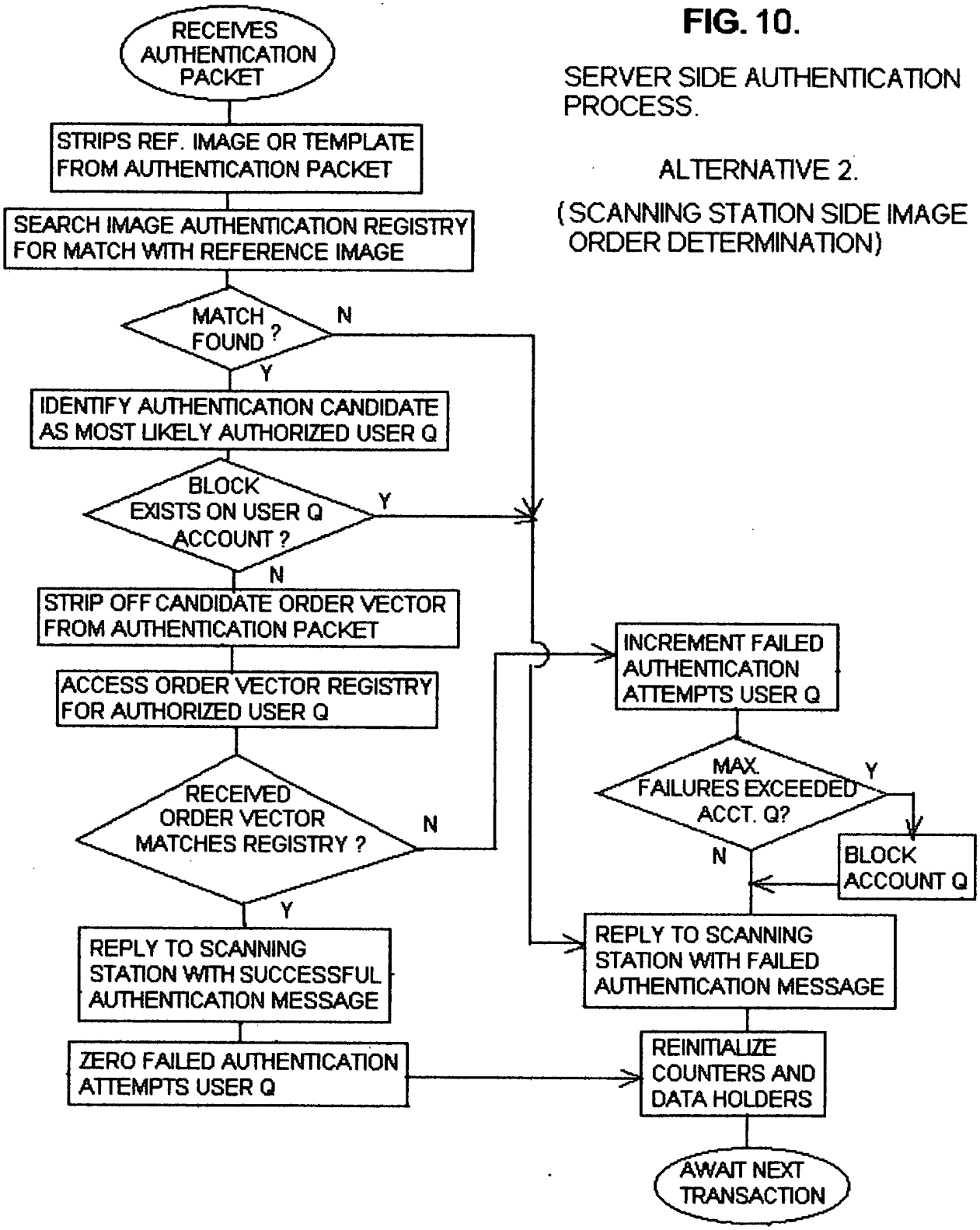


FIG. 10.

SERVER SIDE AUTHENTICATION PROCESS.

ALTERNATIVE 2.

(SCANNING STATION SIDE IMAGE ORDER DETERMINATION)

FIG. 11.

General Eye State Correlation Patterns

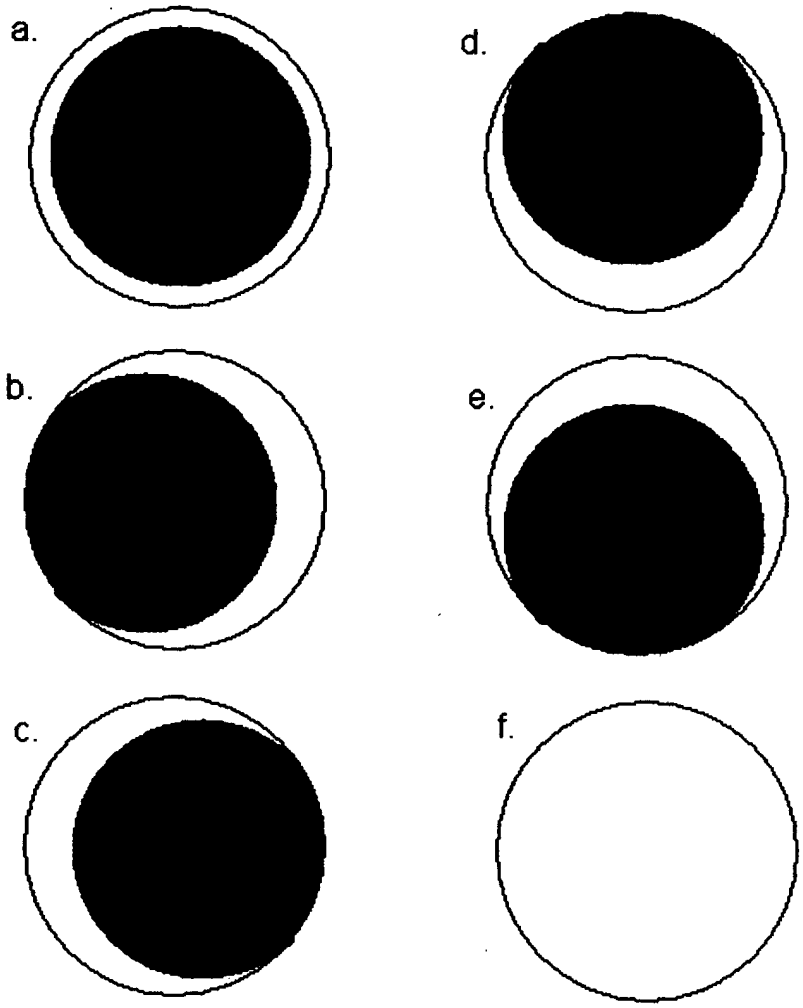
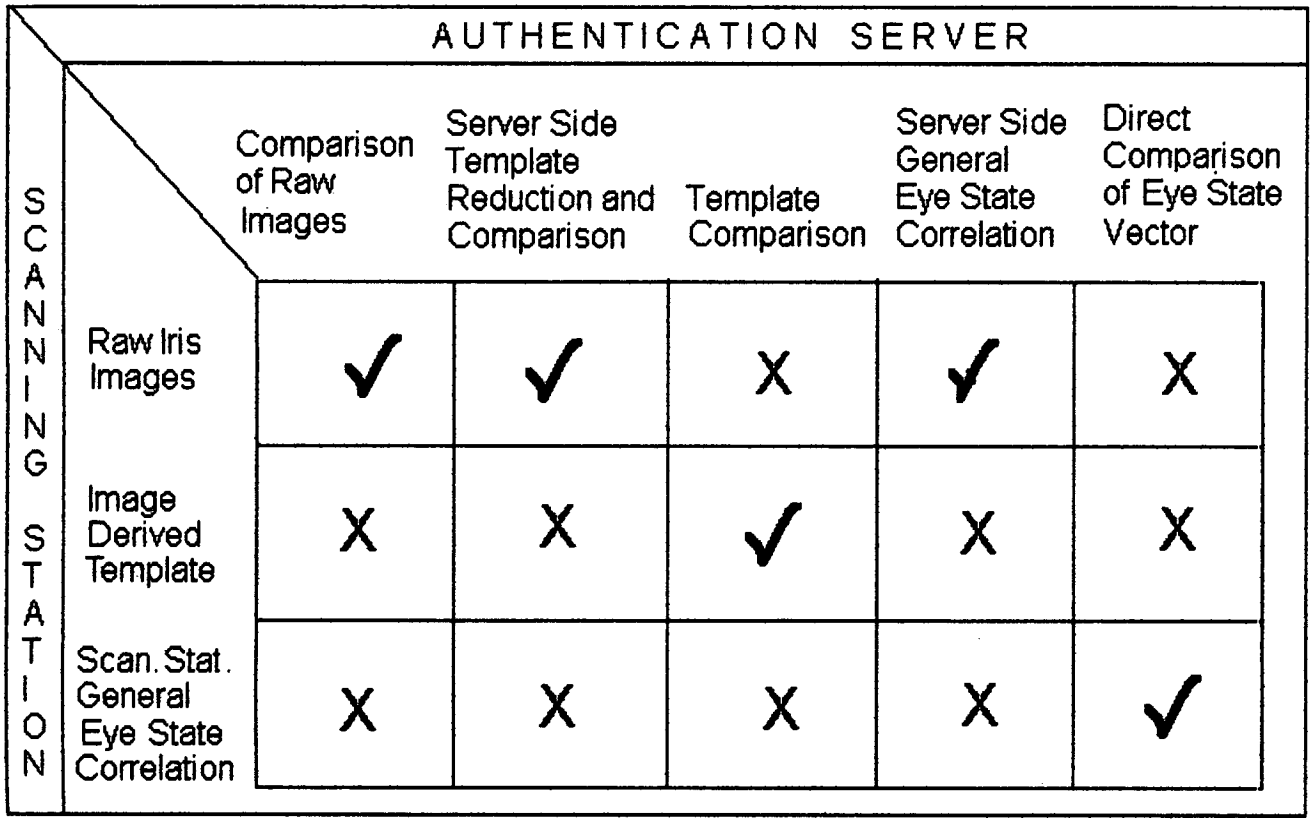


FIG.12.

TECHNICAL ALTERNATIVES ASSOCIATED WITH IMPLEMENTATION